

# Information Literacy: The Missing Link in Early Childhood Education

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Published online: 21 April 2009  
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**Abstract** The rapid growth of information over the last 30 or 40 years has made it impossible for educators to prepare students for the future without teaching them how to be effective information managers. The American Library Association refers to those students who manage information effectively as *information literate*. Information literacy instruction has been a priority in many secondary schools since the American Association of School Libraries published the *Information Literacy Standards for Student Learning* in 1998. Although these standards were written for grades K-12, information literacy is still not the focus in many early childhood classrooms. This article discusses the importance of information literacy instruction in early childhood education. Research suggests that early information literacy instruction, using informational texts and collaborative, teacher–librarian curriculum planning, promotes critical thinking and increases the ability to problem-solve—two skills necessary for survival in today’s Information Age.

**Keywords** Early childhood education · Information age · Information literacy · Informational texts · Teacher–librarian collaboration

## Introduction

According to the American Library Association’s Presidential Committee on Information Literacy (1989), “no other change in American society has offered greater

challenges than the emergence of the Information Age” (para. 1). The Information Age, which began in the last quarter of the twentieth century and continues today, is characterized by the “abundant publication, consumption, and manipulation of information, especially by computers and computer networks” (Information Age 2006). Because computers have made it so easy to disseminate information, the amount of available information has grown at an exponential rate, making it impossible for educators to prepare students for the future without teaching them how to be effective information managers.

The American Library Association (1989) refers to those students who manage information effectively as *information literate*. Information literacy instruction has been a priority in many secondary schools since the American Association of School Libraries, along with the Association for Educational Communications and Technology, published *Information Power: Building Partnerships for Learning* (1998). *Information Power* outlines the *Information Literacy Standards for Student Learning* and encourages teachers and librarians to work together to design curriculum which addresses information literacy, independent learning, and the ethical use of information. Although the *Information Literacy Standards for Student Learning* were written for grades K-12, information literacy is still not the focus in many early childhood classrooms. Most elementary school librarians do not have flexible schedules that give them time to plan and execute collaborative lessons with classroom teachers. Furthermore, early childhood educators tend to under or overestimate the kind of research assignments their students can handle. “When research assignments match stages of children’s cognitive development, they are more satisfied with their learning, more confident in their ability to use the library, and more interested in using nonfiction

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and reference books in seeking information” (Kuhlthau 1987, p. 46). Research studies in Alaska (Lance et al. 1999), Colorado (Lance et al. 1993; Lance et al. 2000a), and Pennsylvania (Lance et al. 2000b) suggest that quality school library programs, run by professional library media specialists who work with classroom teachers to integrate information literacy standards throughout the curriculum, increase academic achievement.

### Information Literacy in Early Childhood Education

A quality school library program begins in early childhood. Although borrowing books and listening to the elementary school librarian read stories aloud is important for students’ literacy development, children in kindergarten, first, and second grade are also capable of using the school library to develop their information literacy skills. In fact, students as young as three can and should be taught information literacy skills (Epstein 2008). In preschool, teachers can practice research readiness by implementing curriculum that requires students to plan and reflect. According to Epstein (2008):

young children are capable of planning and reflecting, key aspects of critical thinking. As planners, children begin with a goal and decide where to work, what materials to use, how to manipulate them, whether to work alone or with others, and so on. When reflecting, children do more than remember what they have done: They apply the lessons learned...To promote critical thinking in children, teachers must themselves be intentional in their practices and diligent about evaluating their effectiveness. It helps to plan and reflect with another person who is familiar with the students and the classroom schedule. (p. 40)

Unfortunately, most preschool teachers do not have a school librarian they can work with to design curriculum that integrates information literacy and promotes critical thinking. However, team-teaching with another preschool teacher can benefit both the students and the teachers in many ways. Teaming with another teacher provides opportunities to share ideas, observe each others’ lessons, and provide constructive feedback. Together, teaching teams can design lessons that allow students to plan and reflect, encouraging them to investigate problems, discuss their ideas, and experiment with solutions (Epstein 2008).

Preschool programs that focus on research readiness prepare children to learn early research skills in their first 3 years of elementary school. In schools where librarians and classroom teachers are free to collaborate, information literacy skills are taught using a number of information process models, including Pathways to Knowledge (Pappas

and Tepe 2000) and the Big6 Information Problem-solving Model (Berkowitz and Eisenberg 2008). Both of these models can be modified to meet the needs of the emergent researcher (Keller 2005). Berkowitz and Eisenberg (2008), developers of the Big6 Information Problem-solving Model, have also developed a simpler version of their information process model for use with children in grades K-2. Known as the Super3 Information Problem-solving Model, it contains the same basic elements as the Big6 Model (see Table 1), but uses language and concepts that are easier for younger children to understand.

*What’s Bugging You?* (see Table 2) is an example of a two-day lesson, designed by classroom teacher Theresa Benson (2007) and based on the Super3 Information Problem-solving Model (Berkowitz and Eisenberg 2008), which could be used in a second-grade classroom as part of a unit on insects and spiders. It has been modified from its original version to include research in the school library.

The modified *What’s Bugging You?* lesson addresses both content and information literacy standards. Students construct their own learning about insects and spiders through exploration. In addition, they access, evaluate, and use information found in nonfiction books to identify different species of insects and spiders they’ve observed in nature. The lesson requires students to use their critical thinking skills as they analyze the data they’ve collected, synthesize their data with facts they find in informational texts, and evaluate their research process through reflection.

### The Importance of Informational Texts in Early Childhood Education

The *National Assessment of Educational Progress*, better known as *The Nation’s Report Card*, measures American student achievement in writing, US history, science, reading, math, geography, economics, civics, and the arts. The NAEP Reading Assessment is administered to fourth and eighth-grade students across the United States every 2 years. By fourth grade, students are expected to be able “to evaluate information beyond the fact level: to consider the relationships of concepts inside the text and outside the text, to think about the information at a conceptual level, and to put that thinking into writing. Students must be able to access, evaluate, and use the information” (Castagna 2007, p. 11). A large part of the NAEP Reading Assessment requires students to construct understanding from informational texts. According to the latest NAEP report (NCES 2007), only 33% of fourth-grade students are reading at or above the proficient level. Castagna (2007) claims that there are two reasons for this lack of reading proficiency. First, early childhood teachers tend to focus on

**Table 1** Comparison of the Big6 and Super3 information problem-solving models

Big6 model	Super3 model
<ol style="list-style-type: none"> <li><i>Task definition</i> <ul style="list-style-type: none"> <li>Define the information problem.</li> <li>Identify the information needed.</li> </ul> </li> <li><i>Information seeking strategies</i> <ul style="list-style-type: none"> <li>Determine all possible sources.</li> <li>Select the best sources.</li> </ul> </li> <li><i>Location and access</i> <ul style="list-style-type: none"> <li>Locate sources (intellectually and physically).</li> <li>Find information within sources.</li> </ul> </li> <li><i>Use of information</i> <ul style="list-style-type: none"> <li>Engage (e.g., read, hear, view, touch).</li> <li>Extract relevant information.</li> </ul> </li> <li><i>Synthesis</i> <ul style="list-style-type: none"> <li>Organize from multiple sources.</li> <li>Present the information.</li> </ul> </li> <li><i>Evaluation</i> <ul style="list-style-type: none"> <li>Judge the product (effectiveness).</li> <li>Judge the process (efficiency).</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li><i>Plan</i> <ul style="list-style-type: none"> <li>What do I need to do?</li> <li>What information do I need to do it?</li> <li>Write a list of questions.</li> </ul> </li> <li><i>Do</i> <ul style="list-style-type: none"> <li>Organize your information.</li> <li>Make something to show what you learned.</li> <li>Cite your sources—tell where you got your information.</li> </ul> </li> <li><i>Review</i> <ul style="list-style-type: none"> <li>Did I do what I was supposed to do?</li> <li>Should I do something else before I turn it in?</li> <li>Do I feel good about what I did?</li> </ul> </li> </ol>

fiction stories during literacy instruction. Their students “learn that stories have characters, setting, and a problem that the characters try to resolve during the story. Books are read from beginning to end. Literacy instruction is explicit” (Castagna 2007, p.12). Nonfiction books are available, but only in literacy centers. Therefore, students are not taught how to access information in these books. Another reason only a third of America’s fourth-grade students read at the proficient or advanced level is that many early childhood educators are so busy teaching their students to “learn to read” that they neglect to teach them how to “read to learn” (Castagna 2007, p. 11).

A 2004 qualitative study looked at the use of informational texts with a multi-age, team-taught preschool class in Canada. Both classroom teachers (Veronica and Gina) were advocates of integrating information literacy into the early childhood curriculum. During the study, they taught a unit on dinosaurs. Lessons concentrated on building a dinosaur habitat, researching what dinosaurs ate, writing fiction and nonfiction books about dinosaurs, measuring the length of the *Lambeosaurus*, etc. Informational texts were used frequently to supplement instruction. As a result, the researcher found the following:

- With informational texts, children recognize text features and develop the ability to use informational text features.
- Within informational texts, children activate schema and develop knowledge about the world.

- From informational texts, children represent understanding and develop knowledge of internal text structures.
- Across informational texts, children self-appraise, self-manage, and develop as intentional learners.
- Through informational texts, children connect with personal experiences and develop as active constructors of meaning.
- Around informational texts, children participate in the classroom community and develop social relationships that support learning and development. (Filipenko 2004, pp. 29–30)

The two teachers involved in this study took on very different roles in the classroom. “Veronica handled the day-to-day needs of a lively early childhood education classroom, while the focal teacher, Gina, scaffolded and supported the children’s literacy development” (Filipenko 2004, p. 30). The researcher compared Veronica and Gina’s working relationship to the relationship between a classroom teacher and library media specialist and concluded that both teachers and librarians have a responsibility to ensure that information literacy is being taught in all content areas, beginning in the preschool classroom. Additionally, she asserts that “young children can and do enthusiastically engage with informational texts. There appears to be no reason, therefore, to exclude such texts from the early childhood education classroom” (Filipenko 2004, p. 34).

**Table 2** Collaborative lesson plan for information literacy

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**What's bugging you?**

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*Day one lesson overview*

Students will spend a class period outdoors, with their classroom teacher and the library media specialist, seeking and observing insects and spiders.

*Plan*

The classroom teacher will...

- Ask students to predict what types of bugs they think they will see, where they think they might find the most bugs, and what kinds of things they might want to look for when they see bugs.
- Ask students what they might want to have on hand to remember the bugs' details once the class comes inside.
- Remind students that they're "planning" their hunt.

*Do*

Both the classroom teacher and the library media specialist will...

- Distribute magnifying glasses and remind students that they have cameras available in case they wish to document their specimens.
- Allow students to take their journals outside if they wish to take notes or draw their bugs.
- While students "hunt" ask them about the specimen characteristics they see. (How many legs? What color? Bright or camouflaged? Where does this bug like to be?)
- Remind students that they're "doing" the hunt.

*Review*

The classroom teacher will...

- As students find bugs, ask them evaluative questions. (How did you find this bug? Was that part of your plan? What made this a good spot to look? Is this something you'd like to do again? Why or why not?)
- Remind students that they're "reviewing" their work.

*Day two lesson overview*

Students will spend a class period in the library, with the library media specialist and their classroom teacher, using informational texts to identify the insects and spiders they observed.

*Plan*

The library media specialist will...

- Ask students where they will find nonfiction books in their library.
- Ask students to identify some other names for the term "bugs."
- Ask students how they will find nonfiction books about insects and spiders.
- Ask students what they will use inside these books to find the insects and spiders they observed.
- Remind students that they're "planning" their research.

*Do*

Both the library media specialist and the classroom teacher will...

- Help students search the card catalog.
- Help students find books on the shelves using their call numbers.
- Allow students to remove books from the shelves and take them back to their seats.
- Help students use the table of contents and index to find their insects and spiders in the books.
- While students compare their journal entries, pictures, and photographs to the information they find in the books and identify their bugs, ask them to write the names of the insects and spiders they observed, as well as the title, author, and page number of the books they found their information in.
- Remind students that they're "doing" the research.

*Review*

The library media specialist will...

- As students identify their insects and spiders, ask them evaluative questions. (How did you find the information you needed? Was that part of your plan? Is there something you wish you would have done yesterday when you were observing your bugs to make your research easier? Are you sure that you've identified your bugs correctly? Why or why not?)
  - Remind students that they're "reviewing" their work.
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## Recommendations for Quality School Library Programs

Elementary school librarians can help early childhood teachers introduce their students to informational texts through teacher–librarian collaboration (i.e., the *What's Bugging You?* two-day lesson). They can also provide early childhood teachers with the *Information Literacy Standards for Student Learning* to use as a “road map” to guide not only literacy instruction, but instruction in all content areas. Furthermore, school districts can improve the information literacy of their students and, therefore, student achievement in grades K-2 and beyond by investing in quality school libraries. According to the Lance Studies (1993, 1999, 2000a, 2000b), quality school libraries have:

- at least one certified library media specialist
- appropriate clerical and technology support staff
- librarian and teachers collaborating to integrate information literacy and content standards
- current resources which include books, magazines, videos, computer resources, and online databases
- supportive administrators who encourage teacher collaboration
- flexible scheduling
- adequate and consistent budgets
- a well-designed, stimulating, accessible, welcoming, and comfortable environment
- a librarian who demonstrates professional leadership

## Conclusion

Although it is possible for early childhood educators to teach information literacy without the guidance of a library media specialist (e.g., Veronica and Gina in the 2004 Filipenko study), kindergarten, first, and second-grade teachers should take advantage of their school librarian's expertise as a resource specialist to co-design curriculum that incorporates both subject area content and information literacy skills. Together, classroom teachers and library media specialists need to persuade administrators that school library programs should be adequately funded to provide for a variety of current resources, as well as flexible librarian schedules. Preschool teachers who do not have access to a school library or librarian can work together to teach their students how to plan and reflect—two key skills for research readiness. They can also support each other in the fight for more funding to develop classroom libraries which give their students access to a variety of informational texts. After all, “information literacy is a survival skill in the Information Age” (ALA 1989, para. 18). Without it, America's children are at risk. The primary

purpose of education is to prepare students for the world of work. However, “a good job today may be obsolete next year. To promote economic independence and quality of existence, there is a lifelong need for being informed and up-to-date” (ALA 1989, para. 2). Preschool students are capable of developing the critical thinking skills they will need to become lifelong learners. It is, therefore, the responsibility of teachers and librarians to be advocates for early information literacy instruction and work together to keep America's students from falling behind.

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